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Academic Dissensus

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EXPERIMENTAL

DIAGRAMMING

Between Spatial
Figuration and
Abstraction

Book of Abstracts

Dr. Lidia Gasperoni, Anna Hougaard PhD, Sarah Gretschi

EXPERIMENTAL

DIAGRAMMING

Between Spatial
Figuration and
Abstraction

Exhibition in the
Architecture Museum TU Berlin
Institute for Architecture
December 13, 2019 –
February 13, 2020

Curated by: Dr. Lidia Gasperoni,
Anna Hougaard PhD, Sarah Gretsch



Experimental Diagramming

Lidia Gasperoni, Anna Hougaard

Over the past decades the diagram has developed into a constitutive, generative medium for architectural design. The diagram as a visual medium facilitates a generative translation of perceived configurations in the thinking process of architecture and vice versa. Yet, today this meaning of diagram has almost disappeared in the everyday use of this word. This exhibition presents experimental uses of diagrams that reveal their performative and transformative essence, rediscovering and presenting new experimental practices of diagramming architecture.

Architectures are often implicit collections of diagrams, elements of the working tools of the design process. Diagrams thereby participate in the creation of architecture and its spatial organization. Such diagrammatic processes have become central in the transformation and generation of new architecture today, and the diagram is an essential translator between information and forms, data and design products, where numerical translation has spread and become institutionalized.

Different meanings and definitions of the diagram exist within architectural design: from a significant preliminary sketch, to a schematic representation of a design concept, from a guiding principle shown indirectly through various guises within a variety of works to a generative code, which can spawn design families. Diagrams, moreover, are a widely used vessel for generating or communicating concepts; there are digital diagrams and analogue diagrams, conventional and experimental ones. Diagrams and mappings are an important medium for urban development by compressing, translating, and portraying complex relations of scale and material.

Diagrams are closely related to the working media of architects. While the diagram is active in orchestrating thoughts and sensations, the diagram in architecture also relates to architecture's working media. Diagrams can become generative in the process of creating, materializing, visualizing, and communicating architecture. Diagrams are thus important devices of mapping space and traces in architectural design and research.

This exhibition shows experimental practices of diagramming that challenge conventional diagrams and develop new diagrammatic practices. The exhibition is based on a call for artefacts that reacts to the question of how we can understand the diagram today in architecture. It is a new way of grasping research as the relation between theoretical reflection, architectural artefacts, and museal exhibitions in the attempt to create a generative link between academic work, architectural production, and the spreading of knowledge.

It is also a way of questioning new design practices and the sense of space they generate. The diagrams shown in the exhibition articulate architectural space between figuration and abstraction. The exhibition will be enriched by a program of lectures, talks, and performances.

Book of Abstracts

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DIAGRAM AS DESIGN TOOL

Riet Eeckhout

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Durational Unfolding
Riet Eeckhout



Durational Unfolding

This set of two drawings track the performance of a diagram in two different stages of the durational unfolding of a figure-ground relationship, space in its momentary status. The drawings explore figure-ground relationships, negotiating the impact the figure has on its ground and the manner in which the ground receives the figure. Subject interest of the drawings are events where the figure-ground relationship reveals productive resistance.

To explore this resistance methodically, spatial information is extracted from image and film-based events or situations. In this drawing process, from one drawing to the other, the pictorial situation sheds its narrative nature and develops a diagram with an observational status, geometrically tracing the unfolding of the figure-ground event from a particular point of view.

Once this diagram is established and completed in the drawing, the diagram is allowed to perform by drawing it from different viewpoints. With every changing point of view, the diagram unfolds in a drawn spatial disposition. The diagram allows for a simultaneity of information to exist and perform in the shallow depth of the drawing surface, permitting particular geometry to surface. Until the drawing comes to an arrest and the subject of the drawing, the drawn object and the material artefact become one in spatial affect.

Here, drawing as a practice, is based on a simultaneous performance: every line engages with the delineation of architectonic qualities of the observed and the expression of more elusive qualities – rhythm, proximity, the proportion of solid and void, line resolution and thickness, absence and presence of scale. It is an utterance of the world, a viewing of the world with the immanent collapse of an object-subject viewpoint and in which the world of objects is replaced by a world of events.

What does it entail – this maneuvering between the figurative and the figural, between object and the event it stages, between measurability and the subject's perspective, urging multiple points of view poised by repetition and iteration that implies constant time-related change? It is the pleasure of architecture that lies in the discovery of compressed spatiality as one draws through its representations, being kept at arm's length from entering the drawing, attempting to capture architecture without being an illustration of it.

Riet Eeckhout's practice in architecture spans 20 years, during which she worked as an architect in Belgium, Malta, Malaysia and the UK. In 2007, she cofounded the architecture design studio Architecture Project London with projects in close relation to architectural research. This research was structured through the invitational practice-based research program at RMIT University (Melbourne) and culminated in 2014 with the completion of her doctorate, entitled 'Process Drawing', under supervision of Professor Martyn Hook at RMIT University. She has lectured at RMIT university (Melbourne), UCA University Canterbury (UK), Syracuse University (London Program, UK), University of Ljubljana (Slovenia) and KU Leuven University (Belgium). Riet is currently employed at KU Leuven University in Belgium as a teacher and post-doctoral researcher.

Monolith Drawing
Ephraim Joris



Monolith Drawing

The Monolith Drawing is not presented as a procedural argument but as an analysis of becoming and being architecture; exploring the contained quality of monumentality. The idea of monumentality is understood as a specific experience void of institutional moralizing tactics. It was the pyramid that Hegel regarded as an important paradigm of architecture with its monumental qualities; a monolith interpreted to have no other function but its symbolic significance. As such, Hegel developed the possibility for architecture to exist outside the notion of practical employment or even occupation.

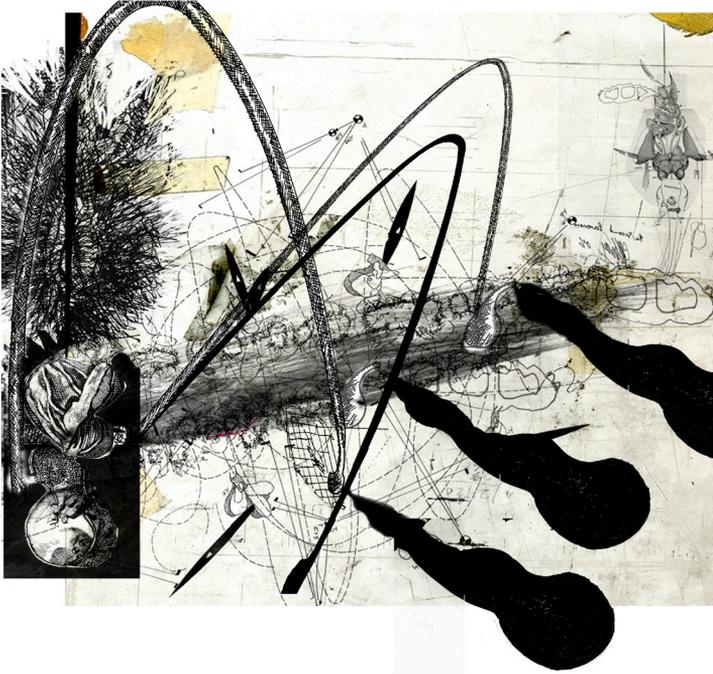
The Monolith Drawing, in the first instance, exists as a study of architectural expression, resisting more general paradigms to indeed nurture processes of discovery. Such is the search for a ternary space as the (meta)physical location of monumentality and this in composition with the manifestation of binary space. Binary space is understood as a situation where inside and outside exist in close proximity such as by drawing a line on paper to instantly divide space in two opposing regions. Commonly, architecture is drawn as a set of lines to delineate insides from outsides.

The Monolith Drawing is not composed as a set of lines but as a set of intersecting volumes, each in reference to historical archetypes. As such, the drawing produces multiple regions simultaneously such as in a Venn Diagram where circles intersect to define common areas of overlap. The Monolith Drawing defines these common areas as void space to form a remaining architectural mass in which the interior morphology can be very different from the exterior outline. The Monolith Drawing explores this remaining mass, this spatializing divide between inside and outside as 3rd space. This space is transitional in nature constantly negotiated although impossible to enter; creating a distance between previously adjacent spatial regions. The Monolith

thus actively explores the decomposition of a binary logic to observe space as trialectical. The adjacent set of drawings illustrate a systematic process of lithic reduction as part of the drawing construct of the Monolith.

Ephraim Joris is a Design Director at APVALLETTA, an international, award-winning architecture firm and a faculty member at KU Leuven and Piet Zwart Institute in Rotterdam. His research looks at the idea of an architectural phenomenology recasting history as the experiential content of speculative architecture. This research stands at the basis of his design work at APVALLETTA as much as his design work stands at the basis of his research. He contributed as a researcher and teacher to various institutions such as RMIT, Syracuse University, Westminster University and Brighton University. He has been a program director at UCA in Canterbury and KU Leuven and is a current member of The Mediated City Research Team at University College London. He is the author of various international publications and academic papers. His research on drawing has been exhibited internationally.

Diagramming Architecture within
Cyborgian Terrains
Neil Spiller



Diagramming Architecture within Cyborgian Terrains

During the early 1990s it became clear to me that architects must learn to manipulate and posit many spatial multiplicities and that these new fields of object spaces would constitute a terrain ideally suited to my interests in combinatorial dynamics, surrealism and purple prose.

My first forays into this arena concentrated on the human body and its digital and biotechnical prostheses but equally its distension, alienation and precarious permeability. It also became clear to me that the quick polemic drawing/diagram was not enough to explore the full extraordinary and wonderful potential of the fleeting new spaces and that a much more involved larger project was needed that had room for further developments in technology but also explored the modalities of drawing/diagramming in the twenty first century was much more appropriate. At the beginning it was simply an emotion, or an imperative to spatial action.

Initially only fragments of the project were visible to me, they came to me one by one. Integrating new technologies, arcane ideas, wild and wayward placements and as well as designing what later became the 'vessels', - another important aspect is the design of the drawing/diagram. A drawing is designed it does not just happen, compositional protocols abound, and one can tell an architect by how and where and what they depict in their drawings/diagrams.

All drawings/diagrams, even the supposed 'hyperreal' ones are highly edited. As the project evolved, I started to understand fully, the reflexive nature of the new spaces and the new geography of these spaces.

I then started to search for spatial conditions, spaces that were the backdrops for perturbations in the history of art and architecture as outriders, or input engines capable of spatial embroidery with my site. Initially the 'site' was unclear but

as time went on the lack of it was standing in the way of full scope, ambition and reconciliation of the work generally.

One evening it became clear – a mythical isle – peculiar to me – half there, half not there. As a boy I was captivated by a small island in a place called Fordwich; I have never set foot on the island, but it has become a repository for an arcadian youth of futures as yet uncast.

It also fit into a tradition of architectural island projects – Temple Island, the Hypnerotomachia Poliphili and Alfred Jarry's Journey of Faustroll to name but a few. Coupled with this real and virtual locations, preoccupations with surrealist and primitive cartography, prehistoric rock art, the drawings/ diagrams of the island swiftly bloomed.

Readings of Jarry and Roussel (particularly "Locus Solus") suggested a protagonist – an eccentric professor creating his own world (any similarities with the author of this piece are purely non-coincidental). The Professor is a choreographer of architectural space, surrealist myth and a world-maker.

It is the interrelationship between space, symbol, narrative, reliable and unreliable history that gives the project its individuality but also it also develops the status of the architectural drawing/diagramming. Many graphic, lyrical and poetic devices have had to be developed to communicate the many disparate readings of the vessels.

As a homage to Andre Breton and Paul Eluard the project became known as 'The Communicating Vessels'. Some of the questions that needed to be answered were how does one depict space that is always on the move? Or connections that fluctuate? How do you inspire a sense of unease, of trepidation and of desire? How does one draw space that is augmented or mixed?

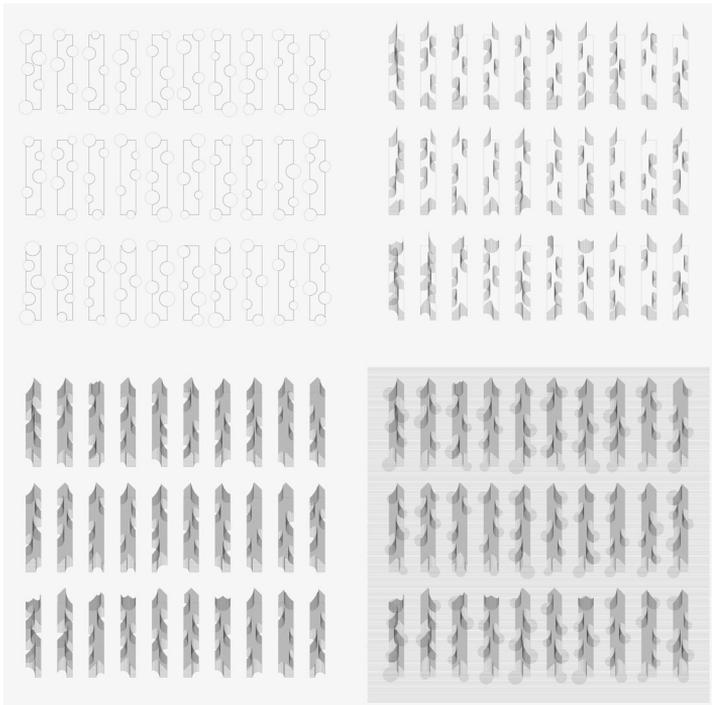
These are just a few creative opportunities of such a project. As I have written on many occasions, but in different guises, surrealist theory can spread much light on these conundrums. A drawing/diagram is a psycho-analytical tool.

Neil Spiller

Neil Spiller is editor of *Architectural Design* and most recently Hawksmoor Chair of Architecture and Landscape and Deputy Pro Vice-Chancellor of the University of Greenwich, London. Prior to this, he was Dean of the School of Architecture, Design and Construction and Professor of Architecture and Digital Theory at Greenwich University. Before this, he was Vice-Dean and Graduate Director of Design at the Bartlett School of Architecture, University College London. He guest edited his first AD, *Architects in Cyberspace* in 1995 (with Martin Pearce) followed in 1996 by *Integrating Architecture* (1996), *Architects in Cyberspace II* (1998), *Young Blood* (2000), *Reflexive Architecture* (2002), *Protocell Architecture* with Rachel Armstrong (2010) and *Drawing Architecture* (2013). Neil's numerous books include *Cyberreader: Critical Writings of the Digital Era* (2002), *Digital Dreams – The Architecture of the New Alchemic Technologies* (1998), and *Visionary Architecture – Blueprints of the Modern Imagination* (2006). He is on the AD editorial board. He is internationally renowned for his drawn architectural design work which has been published and exhibited on many occasions worldwide and is in many collections. Since 1998, he has produced the epic COMMUNICATING VESSELS project. His new book *Surrealism and Architecture: A Blistering Romance* will be published in October 2016 by Thames and Hudson.

30 Houses

Adam Marcus



30 Houses

This series of diagrams explores overlaps between procedural design workflows, the production of difference, and conventions of architectural representation. 30 figural volumes consist of simple extrusions punctuated by five cylindrical voids that vary in size and location to bring light into the interior. The volumes are represented via obliquely projected line patterns that vary in scale and yield a subtle sense of depth within the field, producing new figures that oscillate in and out of legibility.

Computational and algorithmic practices now permeate nearly every aspect of contemporary life, from shopping and finance to manufacturing and healthcare. Technologies such as machine learning and artificial intelligence bring promises of greater efficiency, precision, customization, and productivity, but they also challenge established norms and assumptions regarding human authorship, agency, and autonomy.

Within the discipline of architecture, this disruption manifests in debates over the role of the computer in making design decisions: if and how humans should cede control to automated processes. For the past twenty years, architects have argued over the degree to which machine-based algorithms can and should influence the production of architectural form. Does computation open up new avenues for formal invention and discovery? Or does it inhibit, threaten, and perhaps displace the designer's intuitive capacities?

The answer to both of these questions is, of course, yes. These parametric diagrams explore ways to negotiate this complex landscape of design agency in the computational era. They demonstrate simple parametric techniques for melding computational and intuitive decision-making in the production of form. As diagrams, these drawings suggest one way architects might integrate algorithmic and computational

processes into a design workflow that embraces the potential of discovery in computational processes but also preserves the intuitive role of the designer.

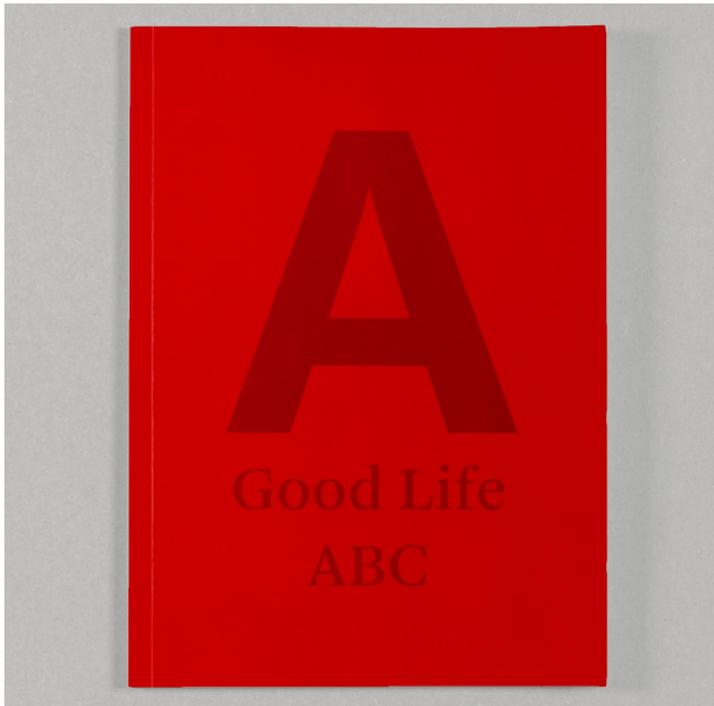
Rather than advocating adeterminism between technical toolsets and aesthetic outcomes, this work suggests that computational workflows need not prescribe specific aesthetic outcomes. The diagrams suggest how architects might embrace algorithmic processes as a complement to (not as a replacement for) the intuitive, authorial agency of the designer.

They embrace the unexpected and unpredictable effects of algorithmic and procedural design, but they also recognize that the parameters and rule sets are deeply subjective and, indeed, controlled and designed by the designer. In regard to questions of design agency —the designer’s role in generating form — the work suggests a hybrid approach, in which the designer melds intuition, procedural and rule-based processes, and a willingness to embrace risk, surprise, and the unexpected that may then emerge.

Adam Marcus directs Variable Projects, an award-winning design and research studio in Oakland, California, and he is a partner in Futures North, a public art collaborative dedicated to exploring the aesthetics of data. Adam is also an Associate Professor of Architecture at California College of the Arts in San Francisco, where he teaches design studios in design computation and digital fabrication and co-directs CCA’s Architectural Ecologies Lab. He has previously taught at Columbia University, the University of Minnesota, and the Architectural Association’s Visiting School Los Angeles. He currently serves on the Board of Directors for the Association for Computer-Aided Design in Architecture (ACADIA).

A Good Life ABC

Jana Culek



A Good Life ABC

A Good Life ABC is part of a three-piece book set and architectural project – “A Flat Tale” – which tests the relationships of images and texts in creating architectural narratives by examining Dutch architecture and visual culture. Set in the format of an alphabet book, A Good Life ABC defines the basic grammar of Dutch architecture and built environment. Each spread contains a letter of the alphabet, a word which signifies a stereotypical and recognizable Dutch object, landscape or elements of the built environment and a drawing – a recognizable visual representation of that object or landscape, thus defining the specific vocabulary of Dutch spatial, architectural and cultural conditions.

The images depict the intended meanings and visual conventions of the words, allowing the viewer to acquire basic knowledge and information about the spatial and cultural context of the Netherlands. The reader gains context specific information such as the fact that the word “landscape” signifies an endless view of gridded fields flanked by canals or straight rows of trees, sporadically inhabited with livestock, or that the most recognizable and widespread image of “architecture” is the brick canal house with large windows and topped with a pitched roof.

In order not to provide the viewer with specific examples of the Dutch objects and landscapes, but with stereotypical and emblematic ones, a limited colour palette is used. Because of their visual properties, and as an homage to the Dutch De Stijl group, the three primary colours – red, blue and yellow – are used to depict everything. The lack of realistic colouring removes any specificity from the depicted objects. They become emblematic representations of only themselves and their Dutchness.

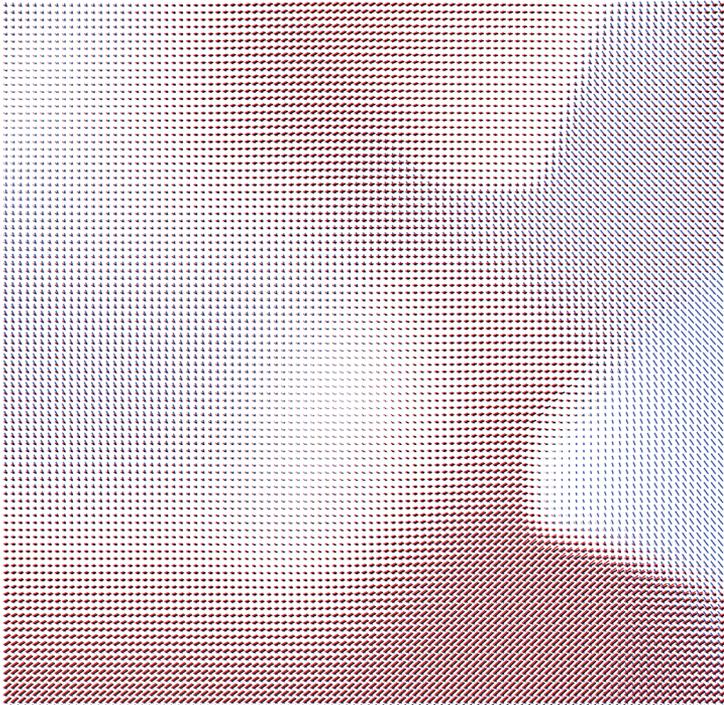
This seemingly simple way of transferring knowledge through the use of reductive imagery is directly related to architectural

diagrams. In the same way that the alphabet book forms the knowledge basis for reading and understanding a language, the set of architectural diagrams can form the basis for reading and understanding the architectural project. Architectural diagrams, whose origins can also be found in the works of Dutch architects such as Herman Hertzberger, are meant to be an “abstract pattern of physical relationships which resolve a small system of interacting and conflicting forces” [Alexander, 1973] in order to help the process of developing an architectural project.

But today they have become a way of communicating the complex process of architectural design to those less familiar with it. The diagram has become a representational method for the architectural concept and idea. Instead of being used as a tool to communicate the basic grammar of a project, it becomes its language as well as its entire narrative.

Jana Culek is a Croatian architect working and studying in the Netherlands since 2014. After graduating from the Berlage Center for Advanced Studies in Architecture and Urban Design in 2016, she has been active as both a practitioner and researcher. In 2017 she founded Studio Fabula where she authored various published and award-winning projects. In 2018 she began her PhD research at the Faculty of Architecture in Delft, where she is investigating utopian projects in architecture and literature. She is part of the Chair of Methods and Analysis where she contributes to the MSc program.

inVisible
Agata Kycia



inVisible

Information era created new possibilities how to visualize, process and communicate data, influencing the way we think and design. Computational tools allow us nowadays to represent complex phenomena, both the quantitative facts and the intangible, qualitative relationships. The ability to portray such complexity opens new opportunities for spatial diagramming. By revealing the subtle, ephemeral and the difficult aspects of a system, the diagram may become a generative medium and inspirational instrument for architectural design.

These series of diagrams show four spaces with their different qualities: the physical, quantifiable ones as well as the immaterial and atmospheric ones. They map visibility fields of a person in a given space through isovist computation. Depending on the character of each space, these quantitative data projections are encoded and abstracted into line drawings. The black and white diagrams represent outdoor urban spaces with sharp corners and clearly defined building outlines, while the colorful ones show the soft, multifaceted character of natural environments such as loan or forest. Line thickness, length, orientation and color tone describe various spatiotemporal aspects such as light, texture, atmosphere and temperature.

The diagrams visualize complex spatial relationship abstracted into line graphics and color fields. As a result, they not only represent given spaces, but also become tools for communicating ideas and inspiring design processes. They transform from information graphics into active devices triggering discovery, experimentation and new concepts in the creation process of architecture.

Agata Kycia is a Berlin-based architect specialized in computational design, digital fabrication and experimental material research. In her architectural and design practice she explores the creative processes on the verge of the digital and the physical, and her work oscillates between these two worlds. After graduating from IaaC Barcelona and TU Delft she worked for several years as lead architect at HENN in Berlin and lectured at various universities such as TU Delft, Architectural Association VS, Warsaw School of Architecture, Fachhochschule Düsseldorf, Fab Lab Berlin, IaaC Barcelona, TU Berlin CHORA and IED Madrid. Currently she teaches digital design and fabrication tools at the Weißensee Art Academy Berlin, department Textile and Surface Design. Since 2017 she is a doctorate researcher at the TU Berlin, where she investigates material-informed design strategies through 3D printing on textiles.

DIAGRAM THEORIES

Gerhard Dirmoser

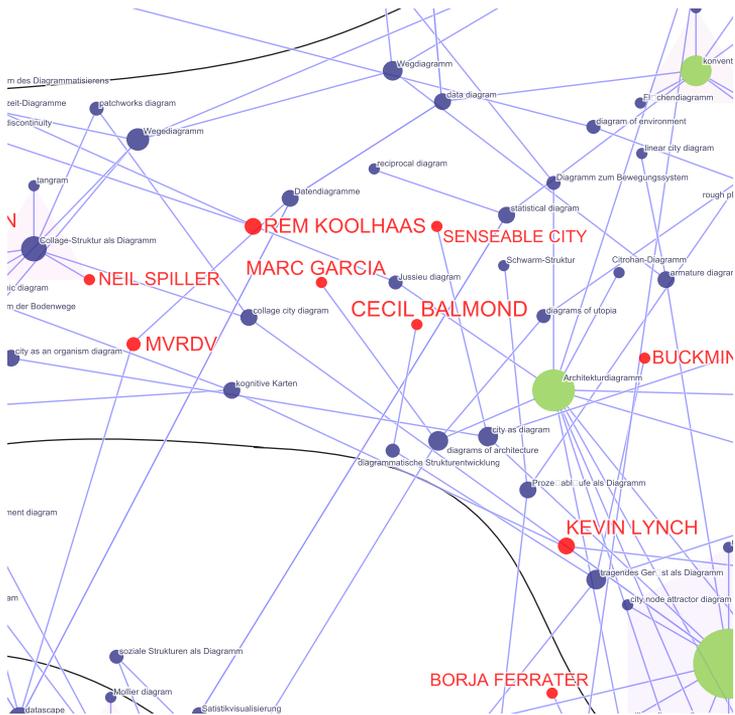
Nikolaus Gansterer

Peter Bertram

Mark Garcia

Comparing Different Notions of Diagrams

Gerhard Dirmoser



Comparing Different Notions of Diagrams

The visualization of semantic relations was made with the help of the software SemaSpace (programmed by Dietmar Offenhuber). The representation comprises a “semantic net” which refers to both the notions or terminology at stake as well as the relevant authors, researchers and architects. Persons are represented in “red”, notions are generally “blue.” Central nodes for the terminology (heavily cross-linked notions) are visualized in “green.” Since persons (e.g. Deleuze, Foucault, Eisenman, etc.) are connected to several content-related nodes their names also give deeper insight into the complex contents in a spatial manner.

The majority of the so-represented touching edges of the network show relations in terminology. In the course of the software-aided expansion of the network, the increased density and the weaker connectivity of some of its subsections became visible, which are in our model forcedly displayed through manually realized edging lines. These lines ideally delimit areas of thematic content. In our version we have philosophical contributions (enveloped) to the left, and design methods to the right. On top there are a couple of basic types of diagrams and in the center we have several key notions (concepts). These edging lines do not yet track abstract concepts in this phase of analysis but try to underline the density relations of the net in a visual way, in order to yield support for more detailed analyses.

In the course of detailed observations it became clear little by little that two different approaches can be distinguished. For knots and edges attributes can be added (in SemaSpace) that are then available to examine hypotheses within the framework of visualization. The distinction between analysis and synthesis has been shown to be a viable orientational difference. Surprisingly, these two approaches show to be clearly separated subsections in the overall network. Representative for the analytic approach we can name

Gerhard Dirmoser

Christopher Alexander, Bill Hillier (Space Syntax) and Kevin A. Lynch. For the diagram-based shape (synthesis) we shall name Greg Lynn, Peter Eisenman and Patrick Schumacher. In this study 3600 marked text passages have been included (200 books, 700 articles). The network shown here rests on the investigated key concepts. The names of scientific articles have been suppressed in this analysis.

Gerhard Dirmoser, retired IT specialist, tries to give as much scope as possible to diagrams as techniques of representation within studies of visual culture and Image Science. Dirmoser has developed numerous studies in the fields of context art, performance art, media art (ars electronica) and diagrammatics. Publications have been in the form of posters.

Sympoiesis Diagrams

Nikolaus Gansterer



Sympoiesis Diagrams

Nikolaus Gansterer's expansive practice of mapping, performative visualization and cartographic representations explores the accumulation of interrelated and often ephemeral phenomena and processes that constitute the specific atmosphere of a place. Interested in perception at a body-mind level, Gansterer charts what he calls a 'four-dimensional' map, taking into consideration three-dimensional space and adding the fourth dimension of time, which he plots through changes of matter across durational intervals.

In his *Sympoiesis Diagrams* done during the 14th Sharjah Art Biennial at Kalba Ice Factory, in UAE, the artist created a series of diagrammatic field recordings of the found ecology. By observing the site closely and recording links and references to the space and its surroundings, Gansterer gives form to Donna Haraway's notion of 'sympoiesis' – space understood as a complex, self-organizing, collectively-producing, boundary-less evolutionary, unpredictable and adaptive system. In his on-going research, Nikolaus Gansterer is interested in tracing the various agencies of all the different factors that enable the emergence of these ephemeral presences.

Nikolaus Gansterer

Nikolaus Gansterer is artist, performer and researcher. His practice is grounded in a trans-medial approach, underpinned by conceptual discourse in the context of performative visualization and cartographic representations. He focuses on mapping processes of transience by developing experimental modes of notation and translation. Gansterer is head of the artistic research project Contingent Agencies (funded by the Austrian Science Fund) and lectures at the University of Applied Arts Vienna, Austria. Gansterer is internationally active in performances, exhibitions and lectures.

Academic Dissensus

Peter Bertram



Academic Dissensus

The game board was used in the development of an imaginary project proposal for an art academy. It was made early in the process. It collected a number of pieces later developed into architectural structures. The collection on display is just a selection of the total number of pieces used in the process. It represents one specific arrangement.

In one perspective, the game board is an imaginary site upon which individual projects are placed. It can be seen as a traditional campus structure comprised of free-standing buildings. In another perspective, it is an instrument in the development of the project. It orchestrates a heterogeneous whole. You think by playing the game, that is, by adding or subtracting new pieces or by transforming them under the influence of the total set of pieces.

However, it has not only been instrumental in the development of the project. It also suggests a way of administering the academy. It is not just a model of buildings on a campus or a way of ordering the many threads of the process. It is also an operational model concerned with the spatial practices of the academy. It is a map of an academic archipelago. It can even be construed as a form of management responsive to the constant reconfigurations of the academy. The board is concerned with problem invention, institutional tactics and spatial practices of the academy.

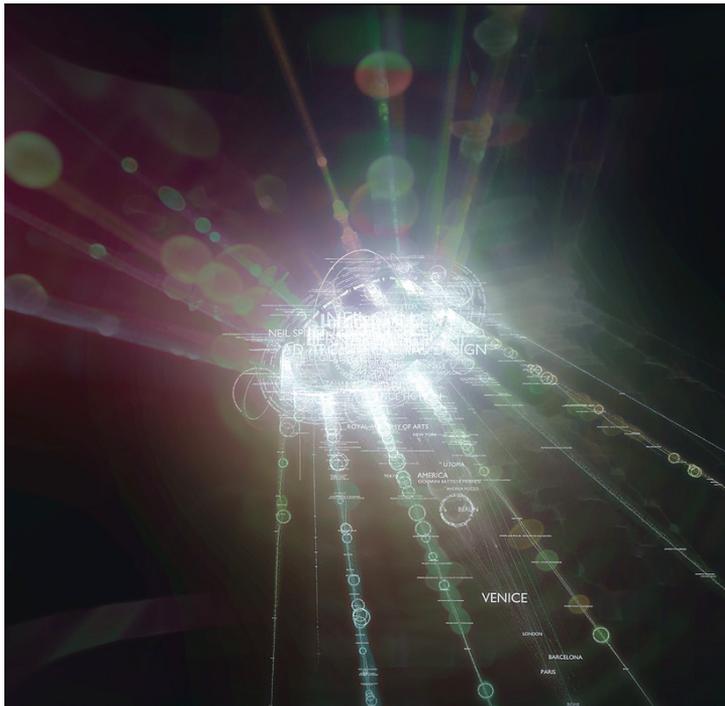
In this respect, it is turned against institutional codes intended to enforce a certain social structure or agenda. It incorporates a central motif in the academy project because it deals with key aspects from problem invention to academy institution. The development and use of the game board can be understood through the concept of the diagram in at least three different ways. First of all, the board acts as a skeleton of relations used to drive an inquiry into the constitution of an academy in contemporary society. In this respect, it serves

as a diagram in a Peircian sense of the word. Secondly, it is not only a representation of an imaginary campus but also a mode of spatial distribution. In this respect, it develops a motif as diagram with reference to Gilles Deleuze and his discussion of Bacon's paintings. The board is the problem or rephrased: the board is a problem captured in a medium related to an institutional problem supposed to exist in society. The development of the game board therefore explores a social diagram, and the final diagram is a dispositif with reference to Michel Foucault.

Peter Bertram is an architect, researcher and educator employed as an associate professor at the Royal Academy of Fine Arts, Copenhagen. He received his master degree from the Royal Academy in 1995 and completed his PhD in 2008. In 2017 he was one of the key initiators of the artistic research biennale Works+Words in Copenhagen. He has exhibited his work on many occasions in Denmark and abroad including the Biennale in Venice. He has published several books on his work from 2009 until today. The list includes *The Makings of an Architectural Model* (2012), *Academic Dissensus* (2016) and in press *Problem Invention* (2019).

The Megagram

Mark Garcia & Mike Aling



The Megagram

Inspired by the epic panoramic historical, theoretical and futurological diagrams of architecture by Charles Jencks, the Megagram of the Department of Architecture and Landscape at the University of Greenwich is a four-dimensional spatialization of some of the School's histories, theories and futures.

It is a collaboratively designed and spatial representation of the Department, designed to continuously, generatively and interactively reflect on and redesign its conceptual and actual architectures through a digital diagrammatic interface.

Addressing the Department's morphing temporal, spatial and theoretical positions in architecture, design and education, the diagram seeks to collectively re-describe the explicit and actual, as well as the possible, implicit and latent sources and locations of its innovative pasts, presents and future innovations. The final result is built from multiple responses to a questionnaire sent to a representative sample of academic staff, and analyses more than 25 elements ranging from the personal to the professional, from individual and group staffs research to student projects.

This included information about projects, legacies, knowledge, skills, experiences, emotions, influences, educations, inheritances, capabilities, ambitions and desires. It surveyed facts and qualities such as books, writings, theories, fiction, media, artworks, artefacts, artists, buildings, designs, engineering and engineers, sciences and scientists, places, cities, organizations and companies, employers, colleges and universities, research fields and questions, hopes and fears, expertise, specializations and networks throughout history, now and in the future.

This private, previously implicit and internal information was supplemented with research into existing data inputs originating from public and external sources, and compilations

of information such as annual catalogues, conferences, courses, publications, official statistics, networks and other bureaucratic sources.

This 4D interactive ‘parametrogram’ (parametric-diagram) was designed using both hand-drawn diagrams and CAD software and was built on the Blender open-source modeling software. The overall kinetic form of the diagram and its universe of big-data information constellations, feedback fields and text streams has that of a butterfly-nebula; the past and the future exploding from the present at the bottleneck/pinch-point waist of the megagram’s central core.

Containing more than 7,000 separate responses, each its own textual data point, the diagram identifies, ranks and links individual members of staff, through over 470 points/nodes of commonality/affinity or difference/uniqueness, each identified in the center of the diagram with their spatial positions organized as a mean value located between all shared staff responses. Their varying and relative sizes indicate the quantity of shared links, indexing the popularity, strength and intensity of common responses and references.

The result blurs diagrams into tools, objects, genealogies, instruments, questionnaires, networks, ambitions, archaeologies, techniques, hopes, scans, processes, origins, curiosities, actions, ethnographies, retrospections, weaknesses, HR, anthropologies, predictions, ideologies, introspections, propositions, softwares, sociologies, cynosures, compatibilities, grand-narratives, creativities, conversations, scans, tactics, effects, makings, hardwares, consumptions, desires, participations, critiques, unconsciousnesses, strengths, surfaces, cultures, interviews, scopes, imaginations, characteristics, synergies, communications, products, powers, manifestos, subjects, connectivities, meta-narratives, repulsions, speculations, legacies, technologies, affects and practices.

This diagram of the universe of the Department has already begun to grow and feedback on itself to become a set of real, projective and constructive architectural forces with active, material and physical lives of their own.

But its disruptive and innovative presence in the school bewildered some less digitally-minded managers, fellow academics and historians and theorists, whilst epistemologically and factually empowering others. Its manifold and surprisingly emergent and catalytic strategic, pedagogic, organizational, practical and historiographic use and applications continue, albeit if more useful for the authors than for others.

Mark Garcia

Mike Aling

Mark Garcia is the Senior Lecturer in MArch Histories/Theories/Futures at the School of Design, University of Greenwich, London. He has worked for Branson Coates Architecture and SOM. He has held academic research posts at Oxford University and at the Royal College of Art (London) in the Department of Industrial Design Engineering and in the Department of Architecture. He has lectured and exhibited in Japan, Switzerland, Ireland, Germany and across Europe and the US. Mark is guest-editor of 'Architextiles AD', 'Patterns of Architecture AD', 'Future Details of Architecture AD' and editor of 'The Diagrams of Architecture'. His 2017 solo show at the University of Cornell was on the architectures of Zaha Hadid. His PhD is on the '21st Century Posthuman Design of Spaceships and Astroarchitectures'.

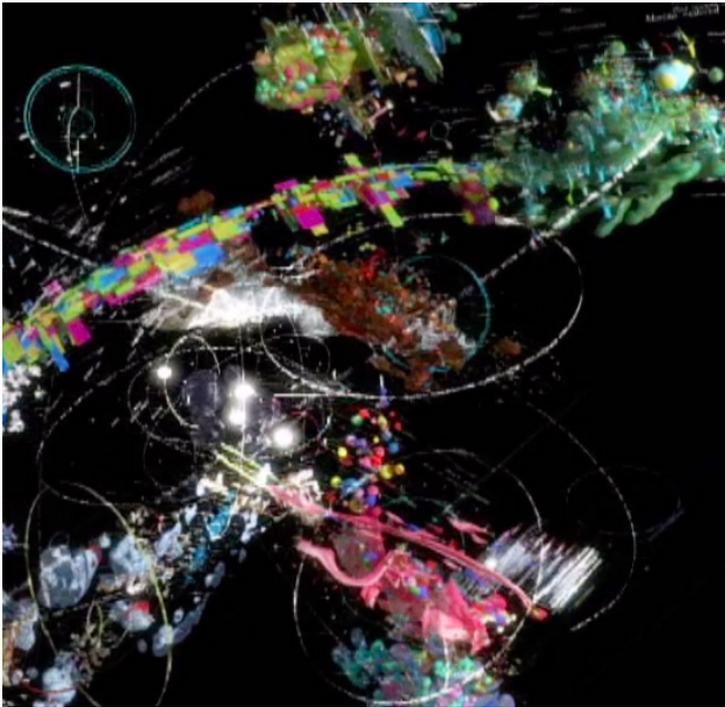
Mike Aling is a senior lecturer at the University of Greenwich School of Design in London, where he is the Programme leader of MArch Architecture and unit master of MArch unit 14. Mike's research examines and speculates on the continuing evolution of digital architectural modelling processes, procedures and languages, as well as research into the future of the architectural book, printed media design anatomies and architectural publishing. Mike has been published and exhibited internationally.

Metadise metagram

Sunny Qin

Mark Garcia

Mike Aling



Metadise metagram

This project is a series of sub-diagrams culminating in a series of 'sub-paradise' digital 'heavens' and a short filmic (4D) concluding generative mechanogram (machinic-diagram) and metagram (meta-diagram) or a 'diagram of diagrams'. The project aims to create a speculative and conceptual infinite and unfinished set of designs (based on interactive computer-games design) and a design process for future heavens or paradises.

From multidisciplinary spatial and typological research into the historical, theological, philosophical, sociological, ethnographic, anthropological, art and design research of human spaces of heaven/paradise, the designers (Qin, Garcia and Aling) produced an animated diagram to infinitely recombine these (in a machinic, Deleuzian and Duchampian virtual/computational) generative machine-diagram to synthesise these (including an element of chance) into an infinitely evolving Posthuman Meta-Paradise or 'Metadise'. The Metagram is the Diagram powering this. The Paradise of Paradises (Metadise) is set in the far future, a post-scarcity and post-singular society - an age with architectures of maximum and multitudinous pleasure.

The project and accompanying thesis research the architectures of historical paradises, alongside ideas of paradise in contemporary Science Fiction. The project posits a series of paradisaical spaces around the Greenwich Meridian, categorized into four typologies - The Edenic Landscape, Subterranean Paradises, The Paradise, and Anti-gravity paradises - that manifest in the paradise of all paradises: 'The Metadise'. The diagram and its force-dynamics is based on a kinetic simulation model of newtonian zero/micro gravity orbit mechanics (Einsteinian) and was used to generatively produce the Meta-Paradise project that can be found in the other, more mimetic, figurative, hyper-surrealist and sci-fi film included.

Sunny Qin is an architect, designer and 3D artist specializing in using film, animation and motion graphics to generate, develop and represent architectural and spatial concepts and interventions. Sunny studied Architecture at The Bartlett School of Architecture, UCL and at the University of Greenwich. He has worked at Make Architects. He graduated in 2015 with a distinction award. In professional practice, Sunny has worked on design, architectural and visualization projects for Make architects, such as Weihai Sales Pavilion, Wuhan Wanda Hotel, Chendu Pinnacle One Office. However, he also takes on freelance design and visualization work such as the Candiology store interior and branding design, John Puttick Architects branding video.

4D Space of Games Diagram

Kate Lynham

Mark Garcia

Mike Aling



4D Space of Games Diagram

The physical nature of this highly physical and manipulatable 4D (interactive) material diagram allows the 3D diagram of the space of games (which ranges across history and the globe) to be explored and discovered through its 3 axes; game worlds, game players and game types. Its form is used both to reveal the research methodology and to encourage non-linear forms of reading and research into the project. It is 'played' rather than simply read/used and to experience it effectively.

No one person has the same experience or 'reads' the thesis in the same order, it reveals its research and knowledge in a process which is unique to each 'reading'. It is as challenging and rewarding to unpack and play with as it is to return it to its original diagrammatic holding configuration, within the typological/taxonomic and custom-made envelope. It is such a complex diagram, that it requires a number of other diagrams to explain and explore it.

Not only is the research and writing of the thesis constructed into the diagram, but the references, and citations are afforded their own 3D space, that are directly associated with their appropriate categorization against the axes. It's many sub-diagrams literally build up to a larger construction, which places itself as the thesis' ultimate conclusion: a speculative diagram of the possible futures of the spaces of games. The final world 'Here's my Game, It's Yours' speculates on a future where the physical construct of game spaces will become more collaborative, and less confined to an outline or a permanent space.

As such, the worlds in which we simply live will become more gamified, breaking the 4th wall of game space and intruding into a grey area in between our real lives and our gaming ones. The diagram construct leaves the 4th world as an extendable space that can extend beyond the confines

of the envelope of the original thesis, just as gamification moves, as it is currently doing in the fields of exercise, transport, advertising and television, beyond the restrictions of traditional game space.

Kate Lynham wrote her thesis 'Here's my Game, It's Yours', 6 years ago during her master's in architecture at the University of Greenwich. Now living in East London, she has a passion for projects and ideas that gamify the physical world around us, through unique experiential design. Since her degree, she has been leading some of the most innovative experiential & digital projects at UNIT9 (AdAge 2019 Production Company of the Year) for over 3 years. This year, her innovative and eye-catching work was recognized by being named in the top 100 Superwomen by Pitch Magazine.

ARTIFICIAL LANDSCAPES AND MAPPINGS

Guro Sollid & Maja Zander

Anna Hougaard

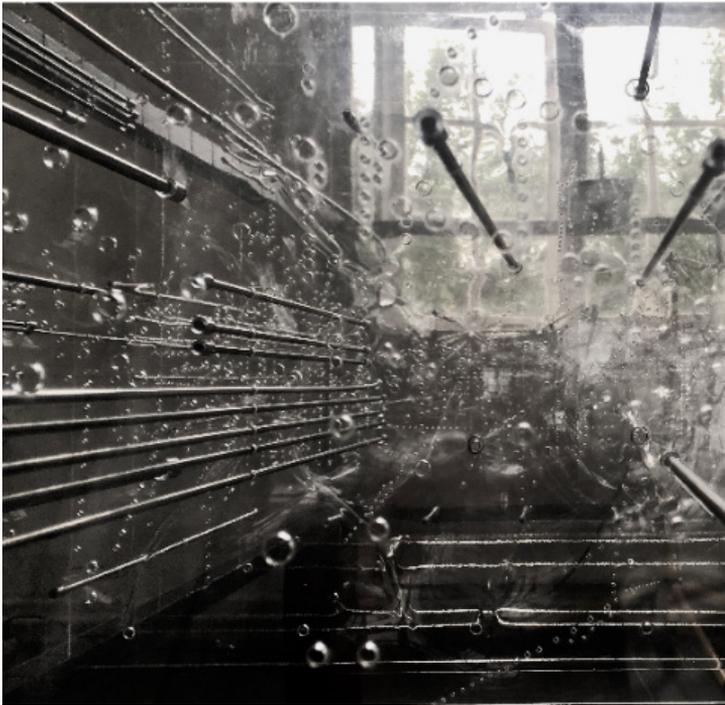
Mira Sanders

Peter Behrbohm

Rachel Hurst

Stradivarie Architetti Associati

Urban Landscapes
Architecture, Space, & Time
Guro Sollid & Maja Zander Fisker



Urban Landscapes

Architecture, Space, & Time

Examining the prerequisites for urban development nature and culture, landscape and city, city and building are no longer addressed as opposites to each other, yet rather as coherent, progressive ecologies. Oscillating between realms of landscape and urbanism, the work investigates new ways to consider the concept of urban landscapes. Considering that we want to organize and reorganize our cities and landscapes to respond to the challenges of our time, the basic conditions of architectural development must be investigated. This project suggests doing so by introducing 'the topological'. The artefact consists of a diagrammatic model with cartographic traces, investigating the creative space between topographic and topological maps. Alongside the topographic interpretation of a city-landscape, the potential of the topological map is to bring awareness to elasticity, movement, and time.

Furthermore, the notion of the frame and the architectural section lifts the two-dimensional map into three dimensions in an attempt to translate the many topological layers into a joint spatial construction - a new urban landscape. The diagrammatic model simultaneously addresses conditions of historical, socio-economic, geopolitical, technological and future layers and can be interpreted at both a micro- and a macro level, as biopsies of a biological experiment, a point-cloud on your computer screen or perhaps inter-stellar weightlessness. More strikingly, as the construction is experienced 1:1 through movement of both body and the eye, visual perceptions of reflection and distortion create further layers of interpretations.

As the model seems to expose, mask, and yet again reveal latent potential, the model becomes operational as an experimental diagram. Examining inner relational conditions rather than outer shapes and objects, the model attempts to convey a topological urban landscape of continuous change

Guro Sollid & Maja Zander Fisker

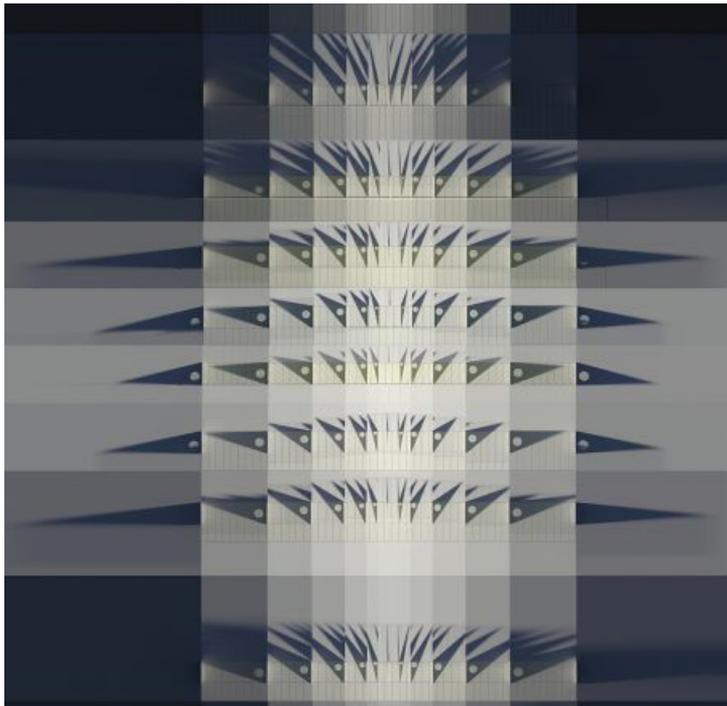
in space and time. Qualities and limitations are tested in the model's ability to identify difference and to function as notational diagram. The diagram is not considered a representation of a reality, yet is rather self-producing by virtue of its abstraction. Emphasis is placed on examining inter-medial contexts; to discuss the architectural drawing and model as vessels for creative thought, and to understand the drawing and model as effective operatives rather than pure forms of representation.

Guro Sollid is an architect and teaching associate professor at the Royal Danish Academy of Fine Arts, Institute of Architecture, Urbanism and Landscape (KADK), and head of the master's program Architecture, Space, and Time. She is deeply engaged in challenging the architectural drawing, exploring boundaries between architectural representation and architectural reflection. Her practice evolves around artistic research in architecture and she is concerned with the synergy between research-based teaching and teaching-based research. She has been actively involved in the recurrent summer school, Hydra, which employs cartography, morphology, and topology as a means of questioning contemporary architectural drawing practice. The research has led to numerous publications and seminars.

Maja Zander Fisker is an architect and doctoral fellow at the Royal Danish Academy of Fine Arts, Institute of Architecture, Urbanism and Landscape (KADK). Zander Fisker's work examines medial affordances and processes of architectural creation, including the generative properties of the architectural drawing. Her PhD project Reflexive Practice—Trans-medial Process and Method in Architectural Education is funded by a three-year grant from the Independent Research Fund Denmark.

A Field of Sundials

Anna Hougaard



A Field of Sundials

The diagram is both a logical device for thinking (Charles S. Peirce) and a creative, intuitive mental figure in art (Gilles Deleuze, Francis Bacon & Bergsonism). These diagram concepts stand out amongst the many theoretical concepts of the diagram, because they seem particularly related to architectural drawing, which too is both logical and intuitive, so my PhD thesis, *The Animate Drawing* (2016). While architectural plans can rightly be described as digital notations, because they always refer to something else through an elaborate system of signs (Nelson Goodman, *Languages of Art*), they are also inherently creative when architects must invent something new, as argued in many appraisals of architectural hand drawing and sketching.

A Field of Sundials stems from *The Animate Drawing* and works with the tension between analogue and digital ways of notating, with logic and intuition, aesthetics and information. Tensions between such opposites can set off creative associations and chain reactions, which can make a drawing process generative – where the maker of the drawing enters into a diagrammatic drawing-way-of-thinking, so to speak. *A Field of Sundials* is about measuring time, which is inherently intertwined with measuring space. Not that architectural drawings are particularly good at representing time, but the metric system which drawing works by is linked to the way human beings measure time. Latitudes and longitudes, for instance, are measured in minutes, seconds and degrees.

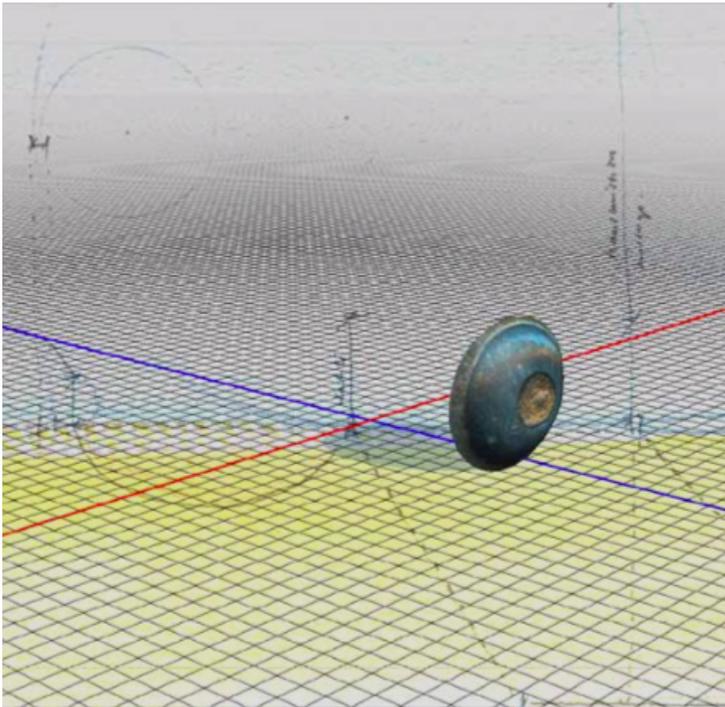
A sundial constitutes an analogue way of measuring time. The rays of the sun hit a gnomon, which is attached to the earth and placed in the center of a half-circle dial. The gnomon's long side is running parallel to the axis around which the earth itself is spinning, and the angle hereof must be adjusted to the exact location of the sundial in order for it to work. Then the shadow will fall correctly onto the dial and show the time.

Strictly speaking, it could be claimed that earth itself is in fact the only “clock” which keeps time exactly. Time measurement only became standardized, or digitized, as a way of synchronizing for instance cross country train service. But because the earth does not always move steadily a so-called “leap second” is introduced into the time system every now and then to adapt it to the actual, analogue movement of the earth. For me the leap second has come to symbolize the inconsistencies between perfect human-made systems and reality. Entangled in such considerations, *A Field of Sundials* works with the mutual dependencies between projection in drawing, and projection of light and shadow in an ideal world of drawing. Technically, the drawing is a rendering seen in plan, simulating the sun falling onto a field of sundials. June 21st in Berlin is the drawings’ reference point, the longest day of the year, where the shadows are shortest. Towards the sides of the drawing the light takes off indicating night fall and day break, towards the top and the bottom winter and summer. An ellipse is cut out of each gnomon, and when the light shines through it, it renders circular on the ground. When the circle is full so is the hour. The circle is drawn with light and shadow through projection in drawing and from the rays of the sun towards the earth, thus associating to Robin Evans’ famous interpretation of the origin of architectural drawing (Robin Evans, *Translations from Drawings to Buildings*).

Anna Hougaard, PhD and architect MAA, is a practicing architect, visualizer, and curator. She is specialized in new developments in architectural drawing. Her PhD project, *The Animate Drawing* (2016), investigated diagrammatics in architecture as being both intertwined with the digitalization of conventional drawing and with artistic research methodology. She has taught architecture for several years at the Royal Danish Academy of Fine Arts in Copenhagen and at the TU Berlin.

Objets Perdus Trouvés

Mira Sanders



Objets Perdus Trouvés

In *Le journal d'un usager de l'espace*, the generic title I use for the way I approach art, the act of drawing comes as a first writing to generate an image. *Le journal d'un usager de l'espace* is a heterogeneous artistic practice where the focus is on space that is at the same time geographic, sensorial and social. I underline the act of drawing, because the 'act' implies certain 'gestures'. It is not just about the art of drawing, but rather the extent to which it introduces a certain position in the world and ways to explore it. For me, the act of drawing stands for wondering for the things that surround us, for exploring a space, for questioning a situation, for constituting a discourse, ...

The act of drawing is not limited to the pencil on paper but is also manifested in the approach we take to photography, filming, writing and composing something. Through the act of drawing I try to understand complex concepts (e.g. dimension, transition, simultaneity...) through a number of contexts I observed and translate the experience graphically (mixed media). In the various films I make, it is not a matter of literally translating these concepts, but rather of dynamically exploring a 'way of thinking about'. It is also about ways of navigating the world that surrounds us and the attempt to visualize these journeys.

Early 2018, I created *Théorie des Objets*—a series of inkjet prints and drawings that translate my observations of objects, based on the book *Théorie des Objets* (1972) by Abraham A. Moles. In a parallel project I developed the video animation *Objets Perdus Trouvés* (2018).

I imposed upon myself to, between January and May 2018, collect objects on the way, for example during my walks between work and home. The objects had to be "precious" and pocket-sized. I photographed the collected objects, scanned them, and then subjected them to all kinds of

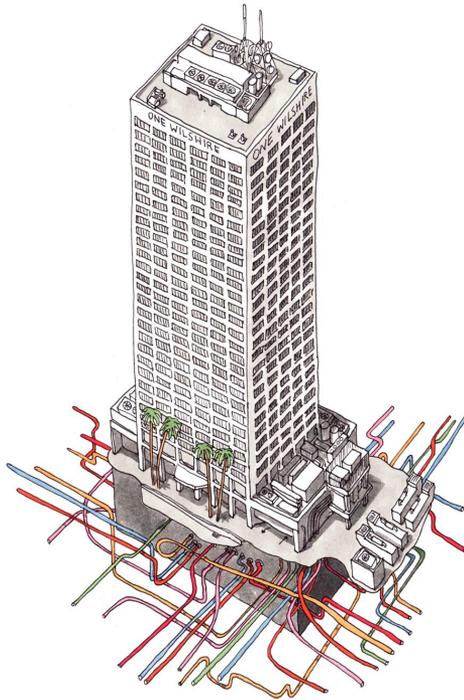
measurements and observations—again (as in the prints *Théorie des Objets*) trying to understand and explore Moles' theory.

Eventually, the film *Objets Perdus Trouvés* shows the scanned objects, being measured, rotated, doubled, etc. in the grid structure of a 3D computer program and/or in a drawing made by me, all together forming multiple layers. While a male and female computer voice alternately describe the object by dryly summing up its measurements, material, form, colors, and supposed function, we can follow the artist's manipulations of the object, thoughtfully rotating and displacing it in its new surroundings.

Mira Sanders (b. 1973) studied Fine Arts at Sint-Lukas Brussels and is lector/ researcher at the KU Leuven Faculty of Architecture, Sint-Lucas, KU Leuven. Her oeuvre consists of drawings and video installations, in which a constant quest emerges for the places, people and stories they contain. Mira Sanders' current work focuses on the positioning of objects, people or events in physical spaces and on the actual terrain. Her visual language consists of meticulous lines that outline imaginary journeys. Mira Sanders obtained her PhD in the arts *About the (Im) possibility to Form an Idea of Limits* in 2017.

Flying Holes

Peter Behrbohm



Flying Holes

Peter Behrbohm and Markus Bühler are undertaking a cinematic journey to the center of the world – along the infrastructure of the internet. They trace the route of ‚Operation Columbia‘, a 10 mile long motorcade of grey cars that headed from Los Angeles to Vancouver in 1947 to promote the ideas of Technocracy Inc., an organization aiming for a society based on big data, technology and sharing to be led by scientists and engineers and tied together by energy certificates instead of dollars. In the years that followed, the stretch of land encircled by the technocrats‘ journey became the birthplace of what became known as the Internet. The corporate headquarters of all major internet corporations are along the route, as well as large parts of its hidden infrastructure.

Assisted by an artificial search dog, Behrbohm and Buehler conduct atmospheric research in proximity to large data fields, they survey the clouds and measure data emission to draw a cinematic map of the Internet’s psychogeography. Crawling into data centers or virtual archives, boarding cable vessels and running across pioneers, natives and technocrat ghosts, they pose questions about a society that spares no pain to immerse into its electronic dreamscape as the world that was once meant to be connected turns into fragmented communities in a wasteland of servient infrastructure.

The drawings seen in the leporello sketchbooks are done by Peter Behrbohm. They are preparations and field notes from the weird odyssey through the architectures of the Internet. Narrative fragments, set design iterations and spatial explorations of where the camera was denied access, The pages of the leporello sketchbooks fold out almost infinitely to be then scrolled like a web page. No page limits are fencing the drawn thought - turning it literally into a stream of consciousness, that is used by the architect/artist to let the hand arrive at decisions against its mind’s expectations.

Peter Behrbohm (*1987) works and lives in Berlin, where he graduated in architecture from the University of the Arts. His work blurs the lines between performance, intervention, architecture, design and film. Peter has been granted numerous awards, including the «BDA-SARP Award» (2014) for the best German/Polish graduation project, the «Baumgarten» Scholarship (2009, 2013), the postgraduate «Elsa-Neumann» Scholarship (2015), the «Berlin Research Scholarship» (2016) or the «MAK Schindler Residency, Los Angeles», given by the Museum for Contemporary Art Vienna (2019). Peter designs obstacles, digs for narrative fragments, thinks with hands and feet and installs fictions. Many of his works are surgically intervening public spaces and routines. 2014 he opened a «Bank» in Newcastle upon Tyne. The film «Kobuto» (2016) portrays the bent highrise at Kottbusser Tor, its architect (another maniac draughtsman) and his road cruiser. The elaborate performances / urban interventions «Walhalla2» and «Habbakuk» (2018, with Anton Steenbock) mix fiction with political action and blur the line between art and theatre. His label «Normol» produces objects for potential barricades and outerspaces, such as «Nihombashi»(2017), «Ammazza»(2017) and the «Landing Seats»(2017). He prefers to work collectively with Anton Steenbock (SONDER), Markus Bühler, as PARA Int. or und. studio.

Folded diagrams:
translations of daily complexity
Rachel Hurst



Folded diagrams: translations of daily complexity

The diagrams in this collection are drawn from larger investigations of everyday spaces as critical sites for understanding spatial patterns and behaviors. They originate in the commonplace table as a conceptual diagram of broader architectural and urban space. Simultaneously, the actual diagramming process responds to the social and haptic nature of the table itself. Produced as mobile recordings of place, occupation and design intent across constantly shifting sites, these compendiums consider the complexity of ostensibly modest settings.

Deceptively simple, the table generally begins as a carefully ordered place and is then overtaken by random patterns of use. While these may appear chaotic, they are the product of repeated, if idiosyncratic, rituals. What if the diagram is opened to similar habits, contingencies and communal settings? The collection here explores an evolution of diagramming through deliberate embedding in the everyday, and the immediacy of familial influences and analogue craft. Part of a PhD by project that produced nearly 400 creative artefacts, it represents the chronology of the research in three folded booklets, or 'leporellos'. The first identifies conceptual moves; the second tests these collaboratively; the third consolidates the diagram as an expanded mode of creative practice and daily discipline.

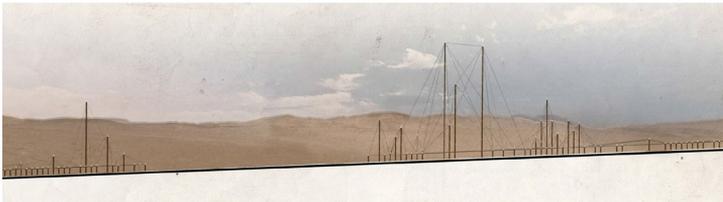
These are: (1) A concertina 'manifesto' of 15 key intentions, methods and moves, summarising the design practice. This pamphlet reproduces the original booklet as a souvenir for visitors to the PhD exhibition, (with hand-sewn gift in the back). (2) Venice Codex (with Beatrice Wharldall) that explores 'diagram as dialogue'. Two collaborators – one an artist, one an architect - alternately diagram the surrounds of every table they share over ten days of travels. (3) Rocks in my Head deploys the diagram as journal. Each diagram identifies daily tasks as colour-coded, hierarchically sized

'rocks', stored in a sectional drawing of a jar or vessel at hand. The diagrams are simultaneously a record of the present, projective plan for the day, and catalogue of sections. Initially used as a tool to analyze a prolific, multi-faceted practice, these diagrams evolved to communicate to various audiences – reviewers, examiners and the public. Strategically, the first booklet trialed hybrid architectural representations, arguing for a future for potentially obsolete analogue crafts. The second and third are extensions of the methodology, exploiting proprietary sketchbooks and visibly analogue media, such as readymade stamps and watercolor. The suite demonstrates certain universal characteristics of diagrams. All are coded compressions of some compound condition, often condensing spatial, material, and behavioral aspects, and creating spatial, hierarchical and chronological correlations between content and graphics. Each is a taxonomy of multiple parts, since rarely can a single diagram describe a situation comprehensively.

Rachel Hurst is Senior Lecturer and Design Stream Coordinator in architecture at UniSA. Recipient of the 2008 AIA Neville Quarry Architectural Education Commendation, her research includes theories of the everyday, design pedagogy, analogue practices and Australian modernism. She has an extensive publication and exhibition background, including over 100 text works and curating and exhibiting locally and internationally in over 25 shows. Rachel is a contributing editor for Architecture Australia. A frequent juror in the AIA Awards, she was a member of the National Awards Jury 2009, is a member of the SA Chapter Education Committee, and active member in the National Visiting Panel accreditation processes. In 2019 she was made a Fellow of the Australian Institute of Architects. Her PHD at RMIT, *The Gentle Hand and the Greedy Eye: an everyday baroque practice in architecture*, was awarded three national awards for art book publishing.

Rupestrian Constellation

STRADIVARIE ARCHITETTI ASSOCIATI



Rupestrian Constellation

The Chilean desert, a territory that apparently seems arid, in the twentieth century, has produced over 200 saltpeter offices that, as quickly as they appeared, activating connections on the territory and very many economic relationships, so equally quickly disappeared, leaving deep furrows in the desert rocks. The project is an abstraction of the location that each office had in Atacama.

We aim to bring back to light the totality of the network. To represent each one of them as part of a lifestyle system of the saltpeter history is somehow our way to acknowledge the meaning they have. They belong to the identity of saltpeter period and the place itself. Therefore, they deserve to be remembered with equal dignity.

The abstraction of this concept takes shape and structure by becoming a territorial landmark generated through the activation of a process that relate closely data and facts that are important for us. Our created landmark is generated through a diagram and presents itself as the definition and concept of the word “diagram”: ...”from the greek word διάγραμμα, dia through, gramma something written..., or simplified and structured representation of concepts, ideas, constructions, relations, statistics data, anatomies, etc. used in every activity where it is necessary to visualize and clarify the present topic”.

Arranged on a 1 meter by 1 meter grid, to resume the exact same position on the territory, we arranged all the saltpeter offices emerged from the ground as stylized bodies. Their height, on the other hand, represents the number of people who worked and lived there. Each vertical element corresponds to a spot on the grid and represents one of the important dates of the saltpeter period (the break between the glory period and the beginning of the decay). The poles height is defined by the amount of inhabitants counted in

the 1930 census for each symbolized saltpeter office. In this period 163 saltpeter offices were counted on the Chilean territory.

Nevertheless, the offices that were closed before and opened after this year are still represented on the artwork, but its height defines our height 0.00 to 1 meter of height of the real land. The light points, placed at the top of these bodies represent the people.

Each body is connected using cables, that symbolize and represent the vulnerability of the people who, subjected to hard work, to extreme weather conditions and to very questionable social policies were capable to build familiar and human relations with the help of the “worth of mouth”. This detail was strongly desired to remember the march of the families towards Iquique in 1907.

The construction process of these structures has given us the chance to verify, just like we wanted, the creation of the shadows that every 21th December will align, representing the union and the strength of the workers who fought for their rights and for live free and independent from the saltpeter offices system – the 21th December was the massacre of the S. Maria School.

Stradivarie Architetti Associati. Starting from the idea that the use of the territory is fundamental for the development of human activities and for the quality of life, the research of the office focuses on open space and urban and territorial infrastructures, understood not only as a space of flows, but as a support for a sustainable construction of the city. The office has always been dedicated to landscape urbanism, an approach that seeks forms of integration between contemporary economic systems, the ecological and social dimensions, finding a natural professional expression in urban design, which becomes the laboratory in which to experiment strategies and methods of transformation of the city. Stradivarie deals with all the aspects that go from the territorial scale to the detailed design, up to their realization. Over the years, the office has specialized in the management of public works by carrying out tasks for numerous institutions, ranging from the drafting of feasibility studies, to the executive design, construction management and safety coordination.

STRADIVARIE ARCHITETTI ASSOCIATI

Stradivarie Architetti Associati is numerous, versatile and close-knit, precisely because the challenges of the contemporary project require a concert of ideas, skills and personality. The group, which is constantly growing and continuously updated, includes professionals with different propensities, thus guaranteeing an operational structure that sees the involvement of figures such as architect, planner, landscape architect, geologist and GIS expert. This particular configuration allows carrying out activities with a high interdisciplinary content.

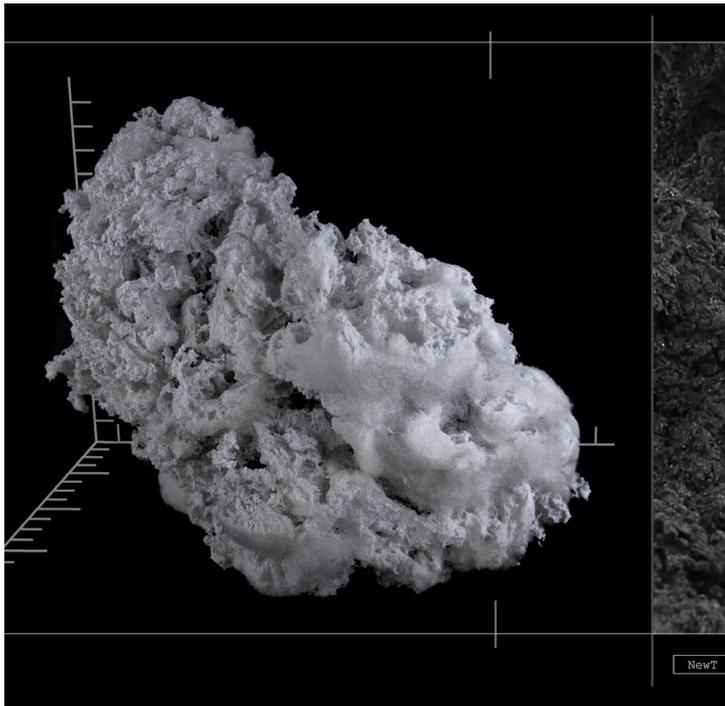
ABSTRACT MACHINES

Francois Roche / New Territories

Kim Albrecht

Paul Heinicker

Diagramma, my dilemma,
my sweet “false friend”
Francois Roche/New Territories



Diagramma, my dilemma, my sweet “false friend”

... how to resist the temptation of embracing the complex mess of intricacy of the real or what appears to be real by reducing its parameters, through a meta-vision, a reductionist agenda, a graph of simplified relations, by lines or codes of correspondences... to express my human “rights” of explanation (etymologically “making flat”)... and predation with the phantasm to draw the map at the place of the “Aleph” map, caressing my self-indulgence to be able to be the Faustian chief orchestra of the complexities and paradoxes, to point and validate what should appear and erase the bad data, the dirty substances, the human part... and to reject my own vulnerability ...how to resist to this strategy of representation, institutionalizing the “discourse of the master”, legitimizing a tool which is by its intrinsic nature the secular arm of any political power.

But... Diagram` could be viewed, in opposition, as a critique of representation, “comme sa mise en abime”, as an assemblage of singularities deduced from the flow... with flux of human vulnerability, political circumstances and conflict, ecosophical dependencies and catastrophes, where subjective matters crossed formal data ... in a choreography of vortex and dynamism, from vitalism to machinism... which articulate the passage, the transformation, the alchemy of values (material and immaterial) in a bio-political context of knowledge... It is so easy to identify the formal diagram of the Pennsylvania Penitentiary, to its exclusive Panopticon wings schema and to resist this simplification of appearance, which ignores the informal relation, political and social organization, at the origin of the apparatus, where bodies and minds are the very substances of the diagram.

The *Diagram* is constituted from this fluctuating process, describing the flexible, elastic and incorporeal functions before being petrified in a definitive shape. This approach re-evaluates the hylemorphic theory – the correlation

between form and matter – as well as the relationship between means and meaning, content and expression, thought and image, and the fissure between representation and non-representation. It values the unformed, the state of flux, the dynamic, the movement toward actualization. It also deals with organization, forces at work in social and cultural constructs; it is a way to travel from one system to another, to consider architecture as a tension, as a conflict of force, which doesn't abolish the risk to be human, where weakness and consciousness, rational and mad, crossed by emotion, passion, chemistry and pathos, are the lines on paper... able to change direction, mind, choice, orientation, to be lost, undecided... hesitating, stuttering, stammering... with multitudes of procrastination. The diagram hegemony developed in the 1990's which remapped the cartography (mainly from northern Europe) by erasing/ignoring/disqualifying this "filthy" dimension are the umpteenth collateral effect of modernity cynicism (?)... which never died in Architecture disciplinary managerial systems.

The *Diagram* I'm talking about allows glitches and lines of escape, indeterminism and conditional situations, in a state that comes before the formation of an object, and still exist after its formation, its emergence. The 'bestiarium Diagram' presented here, proceeds on those zones of ambiguity, articulating sciences, human pathology, knowledge and uncertainties.... Where the "modulations" (Simondon-Deleuze) reveal the relation between the mold/robot and the clay/matter/extrusion... in an interdependency and co-relation with real sensor interface (RSI), signals, inputs, analogue or digital, collected through UPD signal and the chain of Processing, Firefly, Grasshopper, Rhinoceros and re-injected (every 2m/s) in the 'parcours' of the machine, creating a permanent conditional position, between 'the point where the machine was' to 'the point where the machine should be', as a vector of translation in an iterative

redefinition... without ever reaching any vanishing intention as a goal of achievement, producing perturbations and stochastic positioning, in real time, where the trajectory of the nozzle and its secretion are reacting to the robot's very noise, to the human vibes (mental or physical), to the environmental suppression and amnesia... Those agents corrupt the programmed predictable work and modify, in real-time, the path of the fabrication, as a stuttering feedback coming from the intrinsic protocol of doing, increasing the intricate meanders of the tool in an ever permanent inaccuracy of positioning, introducing non-linear processes... as a way of territorializing technologies, but with the condition to never ignore the diagram of their relations... where data and algorithm are neither inoffensive, neither innocent and participate in the diagram of control, of servitude, repression, merchandising... Making with robot incestuously copulating with human data, it's mainly to face the violence of parametric (revival of the 5 points), the violence of the pseudo-scientific approach, caressing positivism and expertise propaganda to maintain a "discourse of the master"... diagram or Diagram "my false friends".

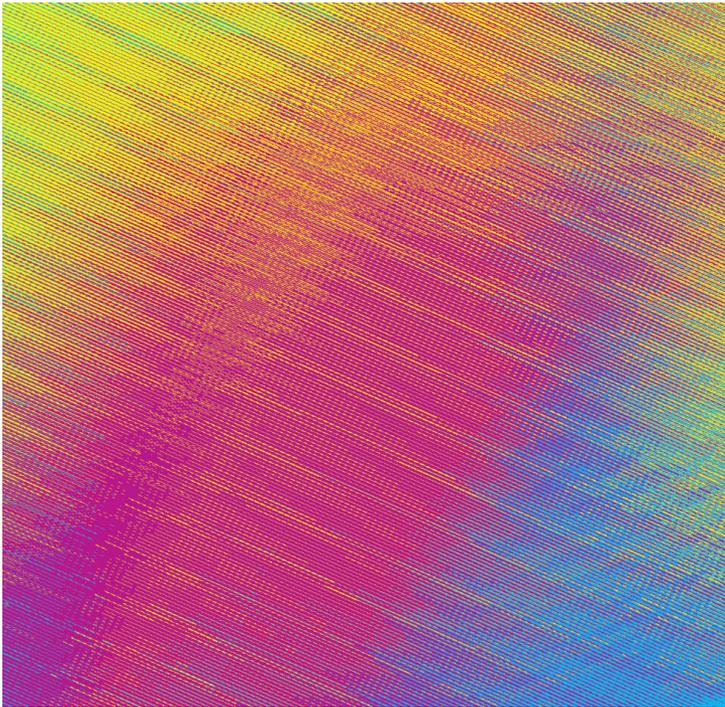
*This conceptual Diagram has been wildly developed by Gilles Deleuze, from the tools left by Michel Foucault. See Gilles Deleuze's 1992 essay Postscript on the Societies of Control.

Francois Roche/ New Territories

New-Territories is a polymorphous architecture organization. Founded in 1993, it has embraced different labels, names, strategies and purposes. New-Territories is fronted by the androgynous avatar, trans-gender avatar, _S/he_, who authorized François Roche to write, talk and teach on his/her behalf, as a PS / personal secretary, an Ariadne's wire of this ectoplasmic system and paranoiac mind. 'New-Territories' emerged through the multitude of meeting points, friendship and dispute, in the hollow of sympathy, empathy, antipathy ... New-Territories seeks to articulate the real and/or fictional, geographic situations and narrative structures that can transform them, with technology, robotic and human natures, physiological and psychological. Exhibited among other places, at Pompidou Center, SF Moma, Tate Modern, Barbican London, CCA Montreal. Selected 8 times at Venice Biennial, in national and international Pavilions, including last session at Chicago and Istanbul Biennial 2015-16, and the last main solo exhibition: "s/he would rather do FICTION MAKeR", Frac Centre, France. Among the teaching positions held by his-her P.S. F Roche, New-Territories has been guest professor, over the last decade, in London, Vienna, Barcelona, Los Angeles, Paris, as well as at Columbia University in New-York from 2006 to 2013, and for the last four years at RMIT, Melbourne.

Distinction Machine

Kim Albrecht



Distinction Machine

By rendering shapes of different colors in the same location, the computer reveals its incapacity of representing ambiguity. In these experiments, a computer mediated aesthetic of strange and intricate patterns emerges. When the computer is asked to perform the simple task of rendering shapes of different colors on the same position, it is confronted with a problem of “determining” which color to display. Instead of deciding for the one or the other, or blending colors, the machine creates strange and intricate patterns. In Computer Science, this is known as “Z Fighting,” and considered an error. This experiment sees it not as a fallacy, but a revelation of how these machines fundamentally operate.

The images are a reflection of computation, visualizing the process of how electric currents move through silicon circuits. The significance is the implication that computers function fundamentally differently than humans do. We’re always in-between, and the ambiguity of human language describes our fluid, paradoxical reality. But computational language is incapable of ambiguity, and so it can never describe the world we actually live in. Further, and perhaps more importantly, this binary restriction of computational language creates a restriction of human expression, and even thought. This is the opposite of how we usually think of using computer systems, which is one of liberation, not restriction.

Ultimately, having our world filtered through computational language influences us to think in falsely defined, often binary terms. Yet we experience the world in ambiguous shades of gray, not sharply defined black and white. The computer is a distinction machine, but humans are not.

Kim Albrecht visualizes cultural, technological, and scientific forms of knowledge. His diagrams are meant to unfold and question the structures of representation and explore the aesthetic of the intermingling of technology and society through the sensual knowledge of tracing information. Kim holds a BA in graphic design and an MA in interface design. Kim worked as a researcher at the Center for Complex Network Research with Prof. Laszlo Barabasi and in 2017 joined the metaLAB (at) Harvard. In 2016 Kim started his Ph.D. at the University of Potsdam in the field of media theory. As knowledge designer and aesthetic researcher, Kim Albrecht explores the boundaries of visual knowledge in the post-digital age.

Paul Heinicker
alt'ai



alt'ai

One of the main effects of the increasing diversity of machine species in our epoch is the slow but dramatic change in the composition of Earth's landscapes. What we used to call "nature" has become populated by artificial objects: small and large, pervasive and ubiquitous, moving and standing, swarming and looming. Today, this transformation has culminated in the emergence of automated landscapes. Populations of sentient machines are taking over not only our cities, but also remote locations, not meant to be visited by humans — and if visited, then just by way of accident or curiosity. These new landscapes are still waiting to be properly imagined and visualized and on top of that, they pose some unprecedented design challenges. In particular, one may ask: What are the strategies of machine-to-machine interaction in these contexts? What are the address and identity protocols suitable for such automated environments?

In order to provide provisional answers to these questions, we decided to build a simulation. We call it alt'ai, and it is inspired by the rich aesthetics, landscapes, and cultural practices of the remote Altai mountain system, stretching over the borders of four countries: Russia, China, Kazakhstan and Mongolia. The simulation itself is an agent-based, self-evolving and complex system. It develops within a feedback loop between agents, behaviors (called rituals) and environments extracted from the Altai region. As a visual meditation, alt'ai makes an allusion to the rules of visual perspective in automated landscapes. As a self-generating repository of unique snapshots that capture instances of interaction among the agents in the simulation, it provides instrumental reference for the development of future machine-to-machine interaction protocols. The main visual outputs of the simulation are called cosmograms. Other than providing the interface for simulation, they serve as reference for creating future aestheticized authentication devices, and by notion of platform animism as general ontology of our

simulation, applicable to upcoming ecology of sentient self-evolving machines, that adapt to their environments on their own, communicate on their own, and engage in games of mimicry, camouflage and display.

Crucially, animist ontology treats each entity as equal part of shared generic space of interiority (e.g. spiritual realm), since entity is individuated by means of its physical/corporeal appearance. Once secularized, we can say that each entity is endowed here with minimal subjectivity emerging in the situations when entity becomes a temporary locus of some chain of interpretation of signs in signaling games within given ecosystem: i.e. the process of semiosis as described by Peirce (1894) and Kohn (2013). Referring to existing protocols of authentication, the question 'who am I' in the animistic address space is universally answered by User triumvirate of what any entity is, has and knows (Bratton 2015). Altogether, the purpose of alt'ai is clearly defined: it makes pictures that can be assigned to agents at different scales in automated landscapes in order to provide them the means to prove their identity and proceed with their tasks in mutual interaction.

The **alt'ai collective** met in 2018 at the Strelka Institute for Media, Architecture and Design, where all four members participated at the 'The New Normal' research programme. The alt'ai simulation is their final project. The members of the team are Berlin-based programmer, Qiao Lin, design researcher with background in data visualisation, Paul Heinicker, also from Berlin, architect Daria Stupina from Moscow, and Slovak researcher and theorist Lukáš Likavčan. Together, they seek new entanglements between design practice, software engineering and philosophy, focusing on the role of images beyond human visual culture and design challenges of interactions between non-human species.

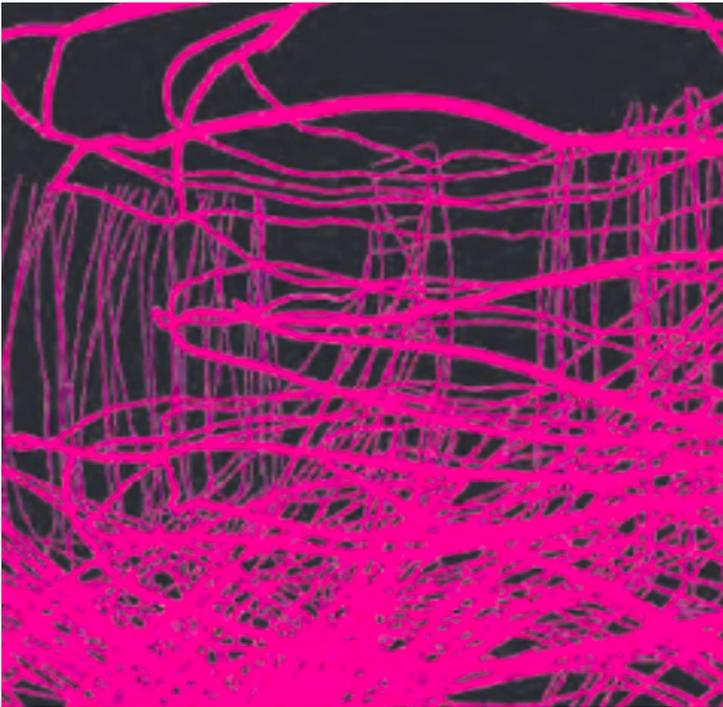
NOTATIONS OF MOVEMENT

Philipp Reinfeld + Students

J. Michael Birn

Dominik Mohs

„VR Raumzeichnen“
Architectural Design in
Virtual Reality
Philipp Reinfeld



„VR Raumzeichnen“

Architectural Design in Virtual Reality

Available in ever-improving quality and at reduced cost, equipment for real-time and fully immersive virtual spaces has recently become available for architectural design and its discussion – Virtual Reality (VR) is becoming increasingly relevant for the creative tasks in architecture.

“VR Raumzeichnen” is an experimental teaching and research project about architectural design and construction in the digital space of virtual reality using head-mounted displays (VR glasses). In the framework of an innovative teaching and learning situation with close, project-related involvement of students, the exploration of the potential of using VR technology in the design process, established by Philipp Reinfeld three years ago at the “Institute of Media and Design” of the TU Braunschweig, will be extended to the investigation of a direct, real-time, and interactive design process in virtual 3D space. For the architectural design purpose, drawing and modelling in a real-scale, by standing upright in one’s own design, represents a completely new and challenging way of working.

Since the 1990s, architectural design practice has gradually evolved from analogue drawing and model building with pen, cutter, paper, and cardboard to digitally processed work with mouse and keyboard on the screen. The initially practiced method of designing and constructing on digital 2D drawing surfaces using computers was successively replaced by modelling in virtual 3D space. While working on virtual 3D models with the help of computers and digital drawing and modelling programs has been standard in the design education of architects for many years, the actual design work is almost exclusively two-dimensionally conveyed - via computer monitors or on paper.

Drawing and modelling using “head mounted displays” (VR glasses) on 1:1 models in virtual 3D space is, in contrast

Philipp Reinfeld with Max Justus
Hoven, IMD _Institute of Media and
Design, and TU Braunschweig Students*

to drawing with mouse and keyboard on miniature model details in front of a computer screen, an extremely physical activity in which sensual information about the body and the tools of perception and design must be coordinated and modified. The design process changes with these active and expansive methods of interactive drawing and modelling. In an immersive, physically active and collective design process in virtual spaces, the focus will shift - away from viewing the design as a model, as a simulation of a future, final, architectural manifestation, to the process of designing as a form of performative and transformative practice - a collective and reflexive negotiation of design-relevant functions. The classical separation between the medially undefined design process and the actual design result is thereby softened.

**Philipp Reinfeld with Max Justus Hoven, IMG_Institute of Media and Design, and TU Braunschweig Students: Tamim Arab, Fabian Bähr, Jannes Beyer, Friedrich Brockmann, Can Ciftci, Julius Dettmers, Britta Fischer, Ole Frieling, Carlos González, Ioannis Kefalas, Tim Schönborn, Lea Schulze, Antonia Stöcker, Laura Thießen, Viktor Waldleben, Caroline Zessack*

Philipp Reinfeld

Philipp Reinfeld researches how the reception and production of architecture and the city are affected by spatial representation in visual media. He is the Deputy Director of the Institute of Media and Design in the architecture department at the Technische Universität Braunschweig. From 2006 to 2008, Reinfeld worked as an artistic associate at the Department for Architecture and Urban Studies „a42.org“ at the Academy of Fine Arts Nuremberg. In 2016, he gained his doctorate degree from the Institute for Architectural Theory at the University of Innsbruck. His dissertation was titled ‘Image-Based Architecture. Fotografie und Entwerfen’ (Image-Based Architecture. Photography and Designing) and was published by Wilhelm Fink in 2018. Since 2019, he has been the editor of the series of papers ‘Architektur der Medien // Medien der Architektur’ (Architecture of the Media // The Media of Architecture).

Notation “Gloria and Gregor”

J. Michael Birn



Notation “Gloria and Gregor”

Gloria and Gregor are the main protagonists in Ghosts of Berlin, a multimedia installation in the crossover between filmic montage, narration and scenography. It plays in an abandoned McDonald’s somewhere in Berlin, where Gloria and Gregor meet. The relations between the two are orchestrated in the intersection between space, event and movement (Cf. Bernard Tschumi’s Manhattan Transcripts), unfolding in time. The notation, which was used as an experimental set-up to correlate time, movement and sense, helped finding the right rhythm between them, the so-called “beats” – emotional turning points. Once the rhythm has been set it can be revisited in the later staging process. In the notation, Gloria and Gregor’s path through the space is orchestrated, when they meet and when they do not, however, it is not really controlled, but rather allows for unforeseen meetings between the two. On two individual sheets the graph displays the ever-reoccurring cycle of movement played out by Gloria and Gregor, a montage narrative, which sometimes matches them and other times does not. Each cycle should offer enough connections to the next one, so the protagonists will be in space, sometimes together sometimes alone, but without being haunted.

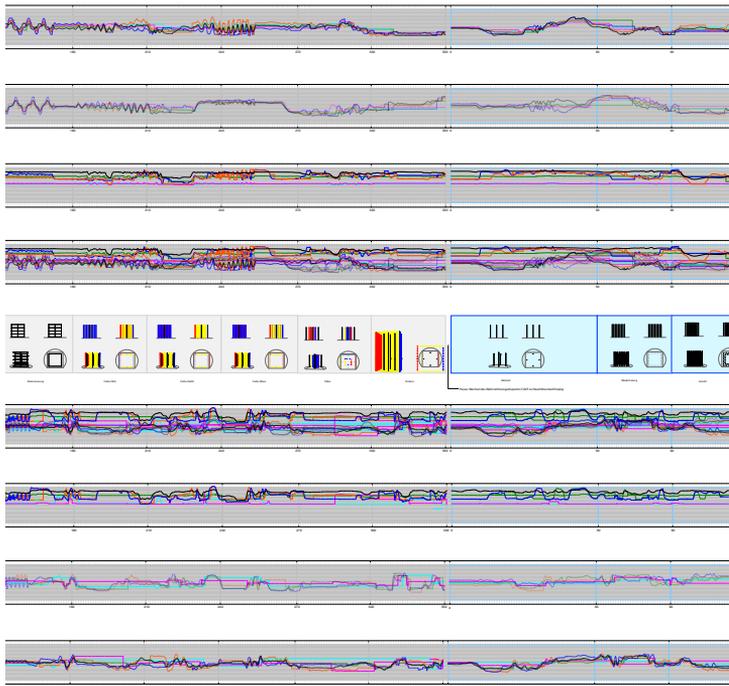
“Gloria und Gregor” is a project of the Film Film University Babelsberg in Potsdam. It is supported by the IKF - Institut für künstlerische Forschung / Institute for Artistic Research.

J. Michael Birn

J. Michael Birn is an architect, painter and production designer. With different media he examines the relation between space and narration. His work is being showcased in fine arts as well as in the context of architecture and film. Since 2017 he teaches scenography and production design at the Film University Babelsberg in Potsdam.

Perceptions and Structures of Architectural and Dance Spaces

Dominik Mohs



Perceptions and Structures of Architectural and Dance Spaces

As part of my PhD on perceptual configurations and body techniques in the architectural design process, numerous recordings and diagrams of dance movement in architectural prototypes emerged.

The diagrams are part of an experimental-empirical research method, which aims to transfer action-based body-knowledge and spatial experience into the design process of architectural spaces.

Connections between architectural spatial form and the quality of movements of improvisational dance were examined and noted under different spatial configurations. Special interest was placed on the dynamic qualities that developed between designed compositions and dance improvisations.

The investigation of the dynamics of architectural space and a phenomenological thinking about physical disposition and spatial atmospheres has meanwhile entered a wide field of architecture theory and is today an attempt to investigate artistic practices as knowledge.

This work, as well, and in a broader sense, is based on the architectural space that was described in 1893 by August Schmarsow as a moving bodily perspective⁴ of bodily spatial experience, which triggered a history of architecture as spatial perception and architecture as the synthesis of physical movement.

The axonometries of spatial arrangements placed in the center of the page were built as hybrid environments and served as a spatial structure for dance improvisations.

My hypothesis is that the different architectural designs could cause different movement-moods of the dance. This raises the question of whether, and if so, how different design

parameters of architectural spaces influence the motivations of the movement of dancers.

The result of this question is the design of an empirical setting, in which spatial mood is measured by dance movement and dance measured by the exact means of Motion Capturing.

Crucial to this design was an accompanying process with experimental spatial arrangements, in which a process of bricolage unfolded between spatial construction, dance improvisation, and movement notation, whose secondary and primary qualities informed and articulated the text of the work in the sense of Claude Lévi- Strauss.

In such a process of artistic study, the meaning of accidental and necessary emerges as a distinctive observation of events and structures. The things that are outside the lived experience and remain foreign to the events, subsequently become the first and objective quality.

This means that the motion curves submitted here represent exactly that portion that has remained outside the lived experience, and yet, in the form of various graphic evaluations of Motion Capturings of the dancer movements in mathematically defined spaces, cannot capture the space of movements as a graph.

The recurrent rearrangement of similar elements such as bodies, materials and spatial topoi led, on the other hand, to different dispositions of architectural spatial-figures and moving dancer bodies that introduce the dancer as a spatial experience expert and generator of qualitative spatial volumes¹, which are fundamentally different from the space of architecture when understood as diagrammatic elaborations in the form of Euclidean geometry. They transgress the quantitatively determinable boundaries of architectural

spaces and are drawings that must be brought to life again and again by the perception of the viewer, e.g. in the form of an exhibition or performance.

Dominik Mohs earned his diploma degree in architecture at UdK-Berlin in 2006 with Adolf Krischanitz as mentor. Meanwhile his studies took him to Paris in 2004 to study at École d'Architecture Val de Seine, Atelier Laurent for one year. In 2005 he did a one-year internship at Ateliers Jean Nouvel in Paris and Rome with the Grant Leonardo. After professional experiences as stage design assistant in 2007 for Christian Wiehle in Friedrichstadtpalast Berlin and as an architect for Barkow Leibinger and Anderhalten Architekten, he received the Auslandsstipendium der Bundesrepublik Deutschland at the Cité Internationale des Arts in Paris in 2008-09. In 2010, he worked two years for Sauerbruch Hutton Architekten. In 2013, he collaborated with Salomé Chkheidze-Mohs for the show „Licht“ at Darmstädter Sezession with their performative sculpture project Sonnenring. In 2013-2018 he taught Gestaltung at the TU-Berlin, chair for landscape design, Jürgen Weidinger. In 2017 he realized the performative installation Kinesphäre¹, a collaboration with the dancer Joris Camelin at Hamburger Bahnhof Berlin, Festival of Future Nows curated by Olafur Eliasson- Institut für Raumexperimente. In 2018 he participated at the Symposium Bildhandlung, Lehrstuhl für Bildnerische Gestaltung, RWTH in Aachen. At the moment, Dominik Mohs is working on his doctoral degree with Jürgen Weidinger and Gabriele Brandstetter as his mentors and as an architect in Berlin and Paris.

Book of Abstracts:

Sarah Gretsch, Anna Hougaard, Lidia Gasperoni